Form No. 3326-255

TORO®

17-44HXL Indy Special Edition

Wheel Horse® Lawn Tractor

Model No. 71233—210000001 and Up

Operator's Manual

Domestic English (EN)

Warning

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Important The engine in this product is not equipped with a spark arrester muffler. It is a violation of California Public Resource Code Section 4442 to use or operate this engine on any forest-covered, brush-covered, or grass-covered land as defined in CPRC 4126. Other states or federal areas may have similar laws.

This spark ignition system complies with Canadian ICES-002.

Ce système d'allumage par étincelle de véhicule est conforme à la norme NMB-002 du Canada.

The enclosed Engine Owner's Manual is supplied for information regarding The U.S. Environmental Protection Agency (EPA) and the California Emission Control Regulation of emission systems, maintenance and warranty.

Keep this engine Owner's Manual with your unit. Should this engine Owner's Manual become damaged or illegible, replace immediately. Replacements may be ordered through the engine manufacturer.

Contents

Introduction

Read this manual carefully to learn how to operate and maintain your product properly. The information in this manual can help you and others avoid injury and product damage. Although Toro designs and produces safe products, you are responsible for operating the product properly and safely.

Whenever you need service, genuine Toro parts, or additional information, contact an Authorized Service Dealer or Toro Customer Service and have the model and serial numbers of your product ready. Figure 1 illustrates the location of the model and serial numbers on the product.

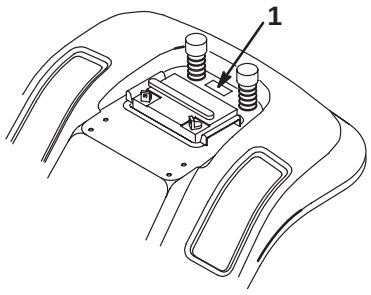

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Figure 1

1. Location of the model and serial numbers

8111 Lyndale Avenue South
Bloomington, MN 55420-1196

Write the product model and serial numbers in the space below:

Model No. _____

Serial No. _____

This manual identifies potential hazards and has special safety messages that help you and others avoid personal injury and even death. ***Danger***, ***Warning***, and ***Caution*** are signal words used to identify the level of hazard. However, regardless of the hazard, be extremely careful.

Danger signals an extreme hazard that *will* cause serious injury or death if you do not follow the recommended precautions.

Warning signals a hazard that *may* cause serious injury or death if you do not follow the recommended precautions.

Caution signals a hazard that may cause minor or moderate injury if you do not follow the recommended precautions.

This manual uses two other words to highlight information. **Important** calls attention to special mechanical information and **Note:** emphasizes general information worthy of special attention.

Safety

This machine meets or exceeds the B71.1–1998 specifications of the American National Standards Institute, in effect at the time of production. However, improper use or maintenance by the operator or owner can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety alert ⚠ symbol, which means CAUTION, WARNING, or DANGER—"personal safety instruction." Failure to comply with the instruction may result in personal injury or death.

Safe Operating Practices

The following instructions are from ANSI standard B71.1—1998.

This product is capable of amputating hands and feet and throwing objects. Always follow all safety instructions to avoid serious injury or death.

General Operation

- Read, understand, and follow all instructions in the operator's manual and on the machine before starting.
- Allow only responsible adults who are familiar with the instructions to operate the machine.
- Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown by the blade.
- Be sure the area is clear of other people before mowing. Stop the machine if anyone enters the area.
- Never carry passengers.
- Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.
- Be aware of the mower discharge direction and do not point it at anyone. Do not operate the mower without either the entire grass catcher or the guard in place.
- Slow down before turning.
- Never leave a running machine unattended. Always turn off blades, set parking brake, stop engine, and remove keys before dismounting.
- Turn off blades when not mowing.
- Stop the engine before removing the grass catcher or unclogging the chute.
- Mow only in daylight or good artificial light.
- Do not operate the machine while under the influence of alcohol or drugs.
- Watch for traffic when operating near or crossing roadways.
- Use extra care when loading or unloading the machine into a trailer or truck.
- Always wear safety goggles or safety glasses with side shields when operating mower.
- Data indicates that operators, age 60 years and above, are involved in a large percentage of riding mower–related injuries. These operators should evaluate their ability to operate the riding mower safely enough to protect themselves and others from serious injury.

Slope Operation

Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. All slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.

- Mow up and down slopes, not across.
- Remove obstacles such as rocks, tree limbs, etc.
- Watch for holes, ruts or bumps. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Use slow speed. Choose a low gear so that you will not have to stop or shift while on the slope.
- Follow Toro's recommendations for wheel weight or counterweights to improve stability.

- Use extra care with grass catchers or other attachments. These can change the stability of the machine.
- Keep all movement on slopes slow and gradual. Do not make sudden changes in speed or direction.
- Avoid starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly straight down the slope.
- Do not turn on slopes unless necessary, and then, turn slowly and gradually downhill, if possible.
- Do not mow near drop-offs, ditches, or embankments. The machine could suddenly turn over if a wheel goes over the edge of a cliff or ditch, or if an edge caves in.
- Do not mow on wet grass. Reduced traction could cause sliding.
- Do not try to stabilize the machine by putting your foot on the ground.
- Do not use a grass catcher on steep slopes.

Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. Never assume that children will remain where you last saw them.

- Keep children out of the mowing area and under the watchful care of another responsible adult.
- Be alert and turn the machine off if children enter the area.
- Before and while backing, look behind and down for small children.
- Never carry children, even with the blades off. They may fall off and be seriously injured or interfere with safe machine operation.
- Never allow children to operate the machine.
- Use extra care when approaching blind corners, shrubs, trees, the end of a fence or other objects that may obscure vision.

Service

- Use extra care when handling gasoline and other fuels. They are flammable and vapors are explosive.
  - Use only an approved container.
  - Never remove the gas cap or add fuel when the engine is running. Allow the engine to cool before refueling. Do not smoke.
  - Never refuel the machine indoors.
  - Never store the machine or fuel container inside where there is an open flame, such as near a water heater or furnace.
- Never run a machine inside a closed area.
- Keep nuts and bolts tight, especially the blade attachment bolts. Keep equipment in good condition.
- Never tamper with safety devices. Check their proper operation regularly.
- Keep the machine free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage. Allow the machine to cool before storing.
- Stop and inspect the equipment if you strike an object. Repair, if necessary, before restarting.
- Grass catcher components are subject to wear, damage and deterioration, which could expose moving parts or allow objects to be thrown. Frequently check components and replace with manufacturer's recommended parts, when necessary.
- Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves, and use extra caution when servicing them.
- Use only genuine Toro replacement parts to ensure that original standards are maintained.

Toro Riding Mower Safety

The following list contains safety information specific to Toro products or other safety information that you must know that is not included in the ANSI standards.

Warning

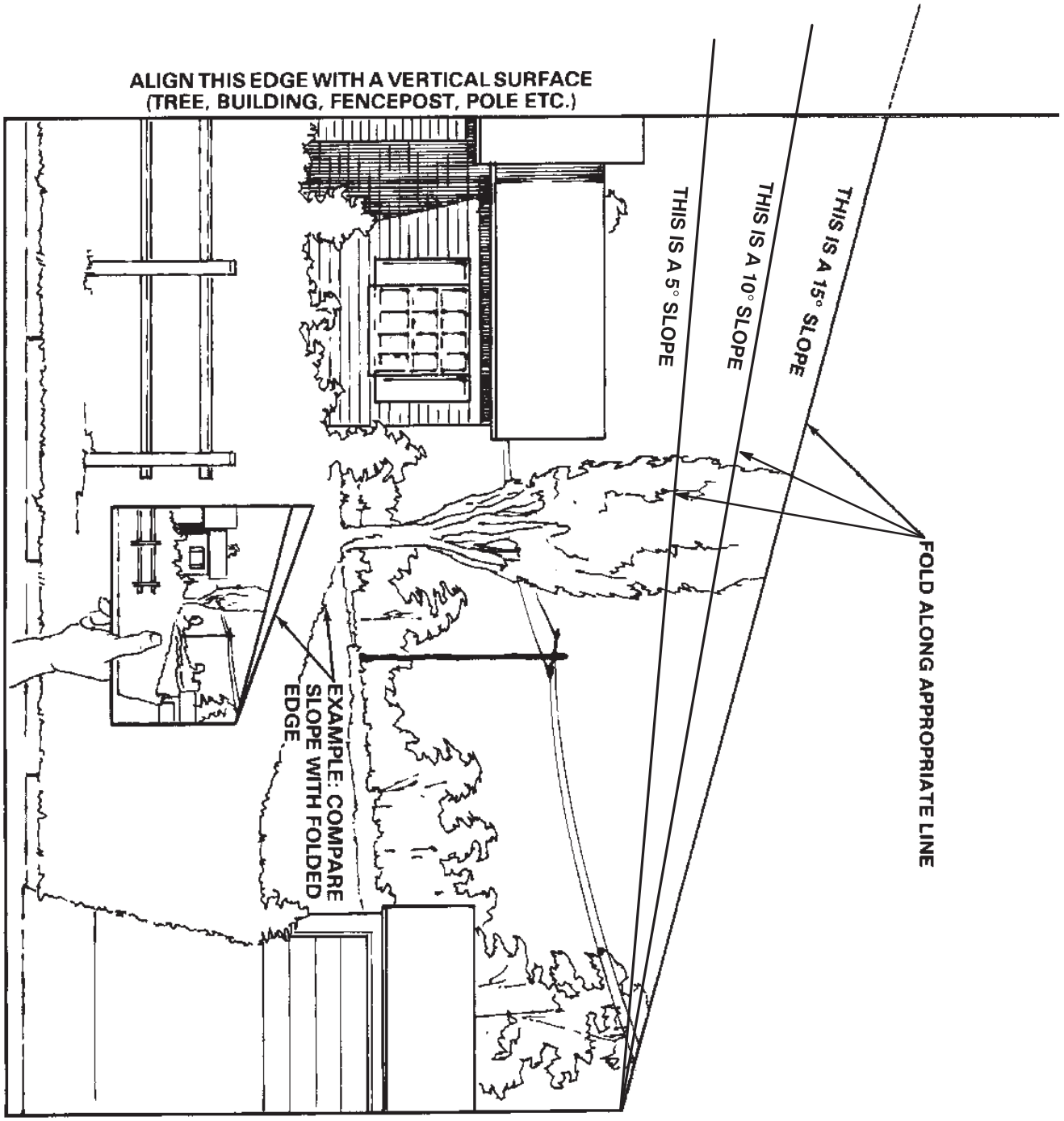
Engine exhaust contains carbon monoxide, which is an odorless, deadly poison that can kill you.

Do not run engine indoors or in an enclosed area.

- Stop the engine, disconnect spark plug wire(s) and remove key before performing any service, repairs, maintenance or adjustments.
- Slow down before turning. Sharp turns on any terrain may cause loss of control.
- Never leave a running machine unattended. Always turn off blades, set parking brake, stop engine, and remove the ignition and KeyChoice™ keys before dismounting.
- Keep hands, feet, hair and loose clothing away from attachment discharge area, underside of mower and any moving parts while engine is running.

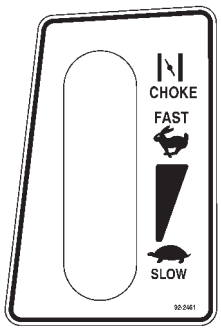
- Do not touch equipment or attachment parts which may be hot from operation. Allow to cool before attempting to maintain, adjust or service.
- Battery acid is poisonous and can cause burns. Avoid contact with skin, eyes and clothing. Protect your face, eyes and clothing when working with a battery.
- Battery gases can explode. Keep cigarettes, sparks and flames away from battery.
- Use only genuine replacement parts to ensure that original standards are maintained.
- Use only Toro approved attachments. Warranty may be voided if used with unapproved attachments.
- Do not mow across hillsides or slopes exceeding 5 degrees.
- Do not mow down hillsides or slopes exceeding 15 degrees.
- Do not mow up hillsides or slopes exceeding 10 degrees.
- If a steep slope must be ascended, back up the hill, and drive forward down the hill, keeping the machine in gear.
- Avoid turning on slopes. If you must turn, turn slowly and gradually downhill, if possible.
- Do not use a grass catcher on steep slopes. Heavy grass bags could cause loss of control or overturn the machine.
- If loading the machine onto a trailer or truck, use a single, full-width ramp only. The ramp angle should not exceed 15 degrees.

Slope Chart


ALIGN THIS EDGE WITH A VERTICAL SURFACE
(TREE, BUILDING, FENCEPOST, POLE ETC.)
THIS IS A 5° SLOPE
THIS IS A 10° SLOPE
THIS IS A 15° SLOPE
FOLD ALONG APPROPRIATE LINE
EXAMPLE: COMPARE SLOPE WITH FOLDED EDGE

Safety and Instruction Decals

Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.



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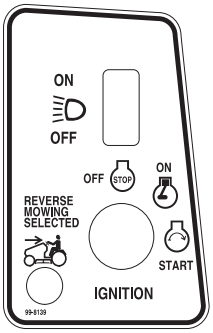

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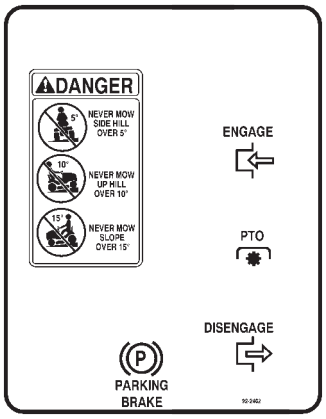

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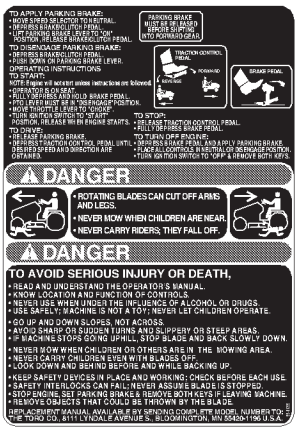

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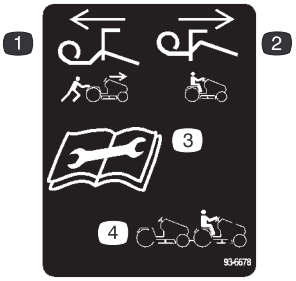

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1. To push the tractor, pull the lever out.
2. To operate the tractor, push the lever in.
3. Read the operator's manual for maintenance procedures.
4. Do not tow.

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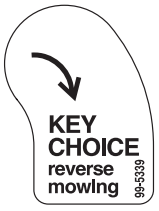

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Gasoline and Oil

Recommended Gasoline

Use UNLEADED Regular Gasoline suitable for automotive use (85 pump octane minimum). Leaded regular gasoline may be used if unleaded regular is not available.

Important Never use methanol, gasoline containing methanol, or gasohol containing more than 10% ethanol because the fuel system could be damaged. Do not mix oil with gasoline.

Danger

In certain conditions, gasoline is extremely flammable and highly explosive. A fire or explosion from gasoline can burn you and others and can damage property.

- **Fill the fuel tank outdoors, in an open area, when the engine is cold. Wipe up any gasoline that spills.**
- **Do not fill the fuel tank completely full. Add gasoline to the fuel tank until the level is 1/4 to 1/2 in. (6 to 13 mm) below the bottom of the filler neck. This empty space in the tank allows gasoline to expand.**
- **Never smoke when handling gasoline, and stay away from an open flame or where gasoline fumes may be ignited by a spark.**
- **Store gasoline in an approved container and keep it out of the reach of children. Never buy more than a 30-day supply of gasoline.**
- **Always place gasoline containers on the ground away from your vehicle before filling.**
- **Do not fill gasoline containers inside a vehicle or on a truck or trailer bed because interior carpets or plastic truck bed liners may insulate the container and slow the loss of any static charge.**
- **When practical, remove gas-powered equipment from the truck or trailer and refuel the equipment with its wheels on the ground.**
- **If this is not possible, then refuel such equipment on a truck or trailer from a portable container, rather than from a gasoline dispenser nozzle.**
- **If a gasoline dispenser nozzle must be used, keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete.**

Stabilizer/Conditioner

Use a fuel stabilizer/conditioner in the machine to provide the following benefits:

- Keeps gasoline fresh during storage of 90 days or less. For longer storage it is recommended that the fuel tank be drained.
- Cleans the engine while it runs
- Eliminates gum-like varnish buildup in the fuel system, which causes hard starting

Important Do not use fuel additives containing methanol or ethanol.

Add the correct amount of gas stabilizer/conditioner to the gas.

Note: A fuel stabilizer/conditioner is most effective when mixed with fresh gasoline. To minimize the chance of varnish deposits in the fuel system, use fuel stabilizer at all times.

Filling the Fuel Tank

1. Shut the engine off and set the parking brake.
2. Clean around the fuel tank cap and remove the cap. Add unleaded regular gasoline to the fuel tank, until the level is 1/4 to 1/2 in. (6 to 13 mm) below the bottom of the filler neck. This space in the tank allows the gasoline to expand. Do not fill the fuel tank completely full.
3. Install the fuel tank cap securely. Wipe up any gasoline that may have spilled.

Checking the Engine Oil Level

Before you start the engine and use the machine, check the oil level in the engine crankcase; refer to Checking the Oil Level, page 18.

Operation

Note: Determine the left and right sides of the machine from the normal operating position.

Think Safety First

Please carefully read all of the safety instructions and symbols in the safety section. Knowing this information could help you, your family, pets, or bystanders avoid injury.

Controls

Become familiar with all of the controls (Fig. 1) before you start the engine and operate the machine.

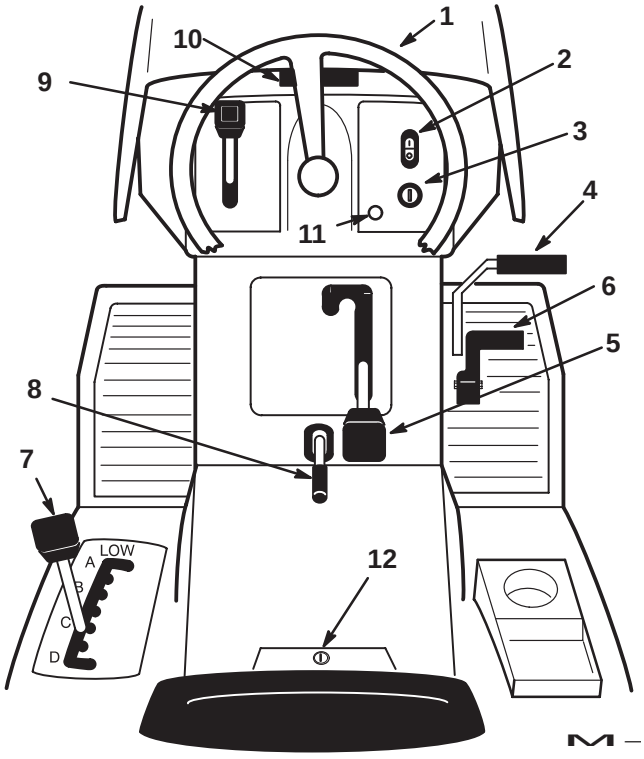


Figure 1

1. Steering wheel
2. Light switch—on/off (selected models)
3. Ignition switch
4. Clutch/brake pedal
5. Blade control (PTO)
6. Ground speed selector
7. Height-of-cut lever (deck lift)
8. Parking brake lever
9. Throttle lever
10. Hood opening
11. Operating-in-Reverse light
12. KeyChoice™ switch

Parking Brake

Always set the parking brake when you stop the machine or leave it unattended.

Setting the Parking Brake

1. Push the brake pedal (Fig. 2) down and hold it in the depressed position.
2. Lift the parking brake lever (Fig. 2) up and gradually take your foot off of the brake pedal. The brake pedal should stay in the depressed (locked) position.

Releasing the Parking Brake

1. Push down on the brake pedal (Fig. 2). The parking brake lever should release.
2. Gradually release the brake pedal.

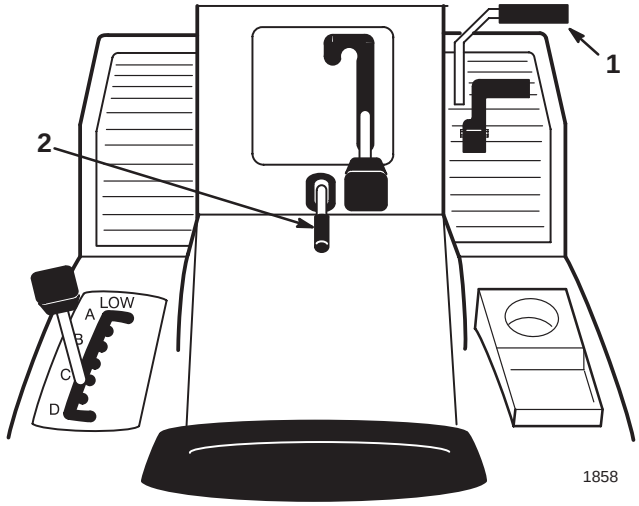


Figure 2

1. Brake pedal
2. Parking brake lever

Positioning the Seat

The seat can move forward and backward. Position the seat where you have the best control of the machine and are most comfortable.

1. Raise the seat and loosen the adjustment knob (Fig. 3).
2. Move the seat to the desired position and tighten the knob.

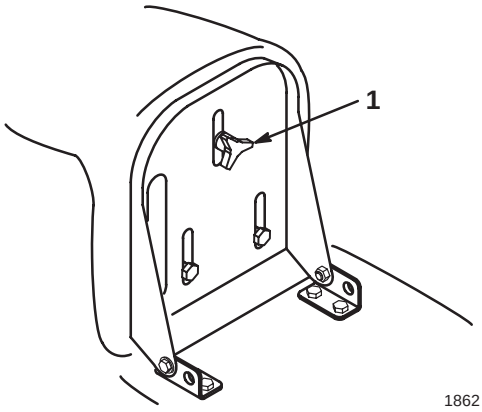


Figure 3

1. Adjustment knob

Headlights

A dash-mounted On/Off switch (Fig. 1) controls the headlights. The lights only shine while the engine is running and the switch is On.

Using the Blade Control (PTO)

The blade control (PTO) engages and disengages power to the blade(s).

Engaging the Blade(s)

1. Depress the brake pedal to stop the machine.
2. Move the blade control (PTO) to Engaged (Fig. 4).

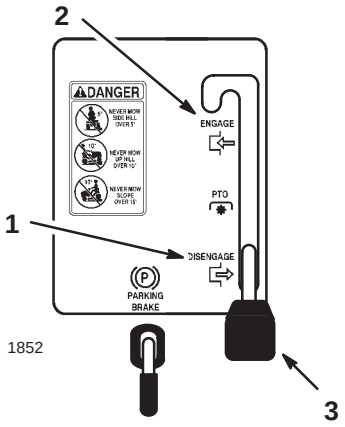


Figure 4

1. Disengaged
2. Engaged
3. Blade control (PTO)

Disengaging the Blade(s)

1. Depress the brake pedal to stop the machine.
2. Move the blade control (PTO) to Disengaged (Fig. 4).

Setting the Height of Cut

The height-of-cut lever (deck lift) is used to raise and lower the mower to the desired cutting height.

1. The cutting height may be set in one of seven positions from approximately 1 to 4 in. (25 to 102 mm).
2. Pull on the height-of-cut lever (deck lift) and move it to the desired position (Fig. 5).

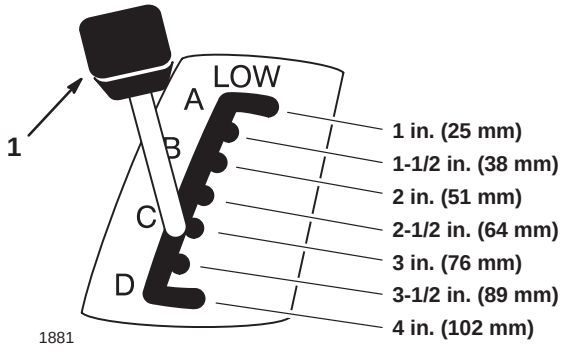


Figure 5

1. Height-of-cut lever (deck lift)

Starting and Stopping the Engine

Starting

1. Sit down on the seat.
2. Set the parking brake; refer to Setting the Parking Brake, page 11.

Note: The engine will not start unless you set the parking brake or fully depress the brake pedal.

3. Move the PTO to Disengaged (Fig. 6).
4. Move the throttle lever to Choke (Fig. 7).

Note: An engine that has been running and is warm may not require step 4.

5. Turn the ignition key clockwise and hold it in the Start position (Fig. 8). When the engine starts, release the key.

Important If the engine does not start after 30 seconds of continuous cranking, turn the ignition key to Off and let the starter motor cool; refer to Troubleshooting, page 29.

6. After the engine starts, slowly move the throttle lever to Fast (Fig. 7). If the engine stalls or hesitates, move the throttle lever back to Choke for a few seconds. Then move the throttle lever to Fast. Repeat this as required.

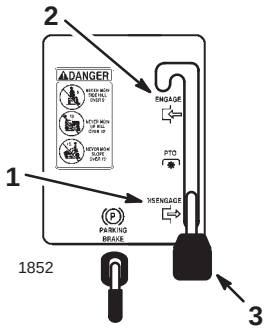


Figure 6

1. Disengaged
2. Engaged
3. Blade control (PTO)

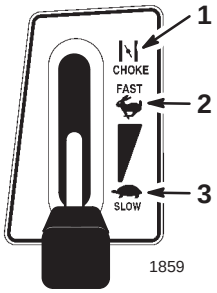


Figure 7

1. Choke
2. Fast
3. Slow

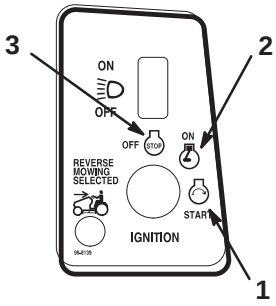


Figure 8

1. Start
2. On
3. Off

Stopping

1. Move the throttle lever to Fast (Fig. 7).

2. Turn the ignition key to Off and remove the key (Fig. 8).

The Safety Interlock System

Caution

If safety interlock switches are disconnected or damaged the machine could operate unexpectedly, causing personal injury.

- **Do not tamper with the interlock switches.**
- **Check the operation of the interlock switches daily and replace any damaged switches before operating the machine.**
- **Replace switches every two years regardless of whether they are operating properly or not.**

Understanding the Safety Interlock System

The safety interlock system is designed to prevent the engine from starting unless:

- You are sitting on the seat.
- The brake pedal is depressed.
- The PTO is Disengaged.

The safety interlock system is designed to stop the engine if:

- You rise from the seat when the brake pedal is released.
- You rise from the seat when the PTO is Engaged.
- You shift into reverse with the PTO engaged.

Setting the KeyChoice™ Switch to Operate in Reverse

An interlock feature on the tractor prevents the power take off (PTO) from operating when backing up. If you shift into reverse with the PTO engaged (i.e., with mower blades or other attachment running), the engine will stop. **Do not mow in reverse unless absolutely necessary.**

If you need to use the PTO while backing up, you can turn off this interlock feature using the KeyChoice switch located near the seat bracket (Fig. 9).

Danger

You could back over a child or bystander while the mower blade(s) or other attachment is engaged and cause serious injury or death.

- **Do not mow in reverse unless absolutely necessary.**
- **Do not insert the KeyChoice key unless it is absolutely necessary.**
- **Always look backward and down before backing up.**
- **Use the KeyChoice switch only if you are certain no children or other bystanders will enter the mowing area.**
- **Be very observant after deactivating the interlock because the sound of the engine may prevent you from noticing that a child or bystander has entered the work area.**
- **Always remove both the ignition and KeyChoice keys and put them in a safe place out of the reach of children or unauthorized users when leaving the unit unattended.**

1. Engage the PTO.

2. Insert the KeyChoice key into the switch (Fig. 9).

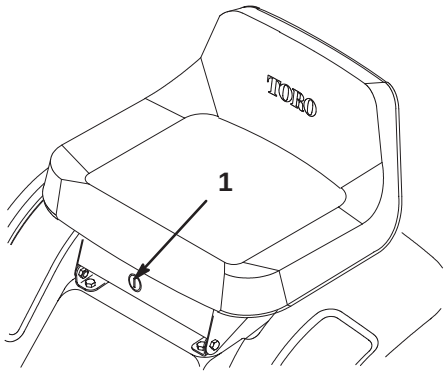


Figure 9

1. KeyChoice switch

3. Turn the KeyChoice key.

A red light on the front console (Fig. 10) turns on, indicating that the interlock is disabled.

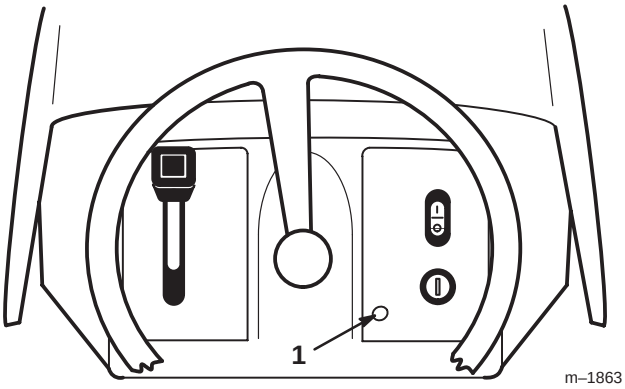


Figure 10

1. Operating-in-reverse light

4. Shift into reverse and complete your task.

5. Stop the PTO of the engine to activate the interlock.

6. Remove the KeyChoice key and put it in a safe place out of reach of children.

Testing the Safety System

Test the safety system before you use the machine each time. If the safety system does not operate as described below, have an Authorized Service Dealer repair the safety system immediately. While sitting in the seat, perform the following checks.

1. Set the parking brake. Move the PTO to Engaged. Turn the ignition key to Start; the engine should not crank.

2. Move the PTO to Disengaged and release the parking brake. Turn the ignition key to Start; the engine should not crank.

3. Set the parking brake and move the PTO to Disengaged. Start the engine. While the engine is running, release the parking brake and rise slightly from the seat; the engine should stop.

4. Put the PTO lever in the Disengage position, the traction control pedal in neutral, and set the parking brake. Start the engine. While the engine is running, move the PTO lever to the Engage position and move the traction control pedal to reverse. The engine should stop.

5. Put the PTO lever in the Disengage position, the traction control pedal in neutral, and set the parking brake. Start the engine. Move the PTO lever to the Engage position and turn the KeyChoice key and release. The operating-in-reverse warning light should illuminate. Move the PTO lever to the Disengage position and the operating-in-reverse warning light should turn off.

Pushing the Machine by Hand

Important Always push the machine by hand. Never tow the machine because transaxle damage may occur.

To Push the Machine

1. Disengage the PTO, stop the engine, and remove the ignition key.
2. Pull the drive control out to the Push position. This disengages the drive system and allows the wheels to turn freely (Fig. 11).

To Operate the Machine

Push the drive control in to the Operate position. This engages the drive system (Fig. 11).

Note: The machine will not drive unless the drive control is in the Operate position.

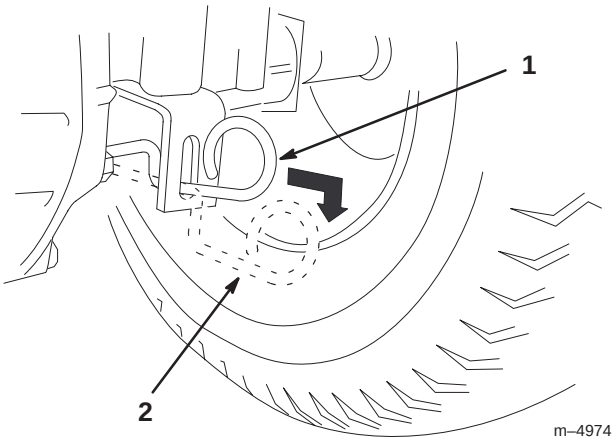


Figure 11

1. Operate position
2. Push position

Driving Forward or Backward

The throttle control regulates the engine speed as measured in RPM (revolutions per minute). Place the throttle control in the Fast position for best performance.

To go forward or backward, release the parking brake; refer to Releasing the Parking Brake, page 11. Place your foot on the traction control pedal and slowly press on the top of the traction control pedal to move forward or on the bottom of the traction control pedal to move backward (Fig. 12). The farther you move the traction control pedal in either direction, the faster the machine will move in that direction.

To slow down, release the pressure on the traction control pedal.

Important To avoid transmission damage, always release the parking brake before moving the traction control pedal.

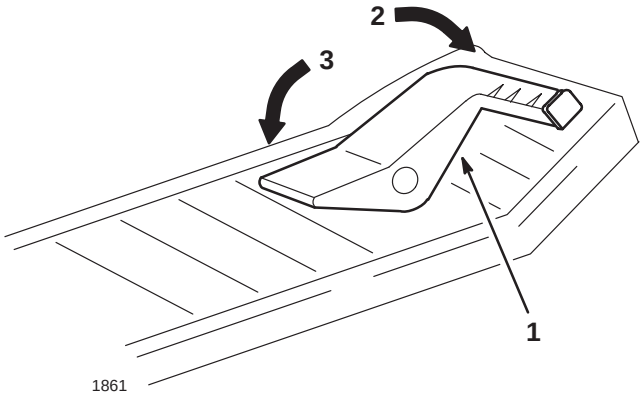


Figure 12

1. Traction control pedal
2. Forward
3. Backward

Stopping the Machine

To stop the machine, release the traction control pedal, disengage the PTO, and turn the ignition key to Off to stop the engine. Also set the parking brake if you leave the machine unattended; refer to Setting the Parking Brake, page 11. Remember to remove the key from the ignition switch.

Caution

Children or bystanders may be injured if they move or attempt to operate the tractor while it is unattended.

Always remove the ignition and KeyChoice keys and set the parking brake when leaving the machine unattended, even if just for a few minutes.

Tips for Mowing Grass

Fast Throttle Setting

For best mowing and maximum air circulation, operate the engine at Fast. Air is required to thoroughly cut grass clippings, so do not set the height-of-cut so low as to totally surround the mower by uncut grass. Always try to have one side of the mower free from uncut grass, which allows air to be drawn into the mower.

Using the Mower for the First Time

Cut grass slightly longer than normal to ensure that the cutting height of the mower does not scalp any uneven ground. However, the cutting height used in the past is generally the best one to use. When cutting grass longer than 6 in. (15.2 cm) tall, you may want to cut the lawn twice to ensure an acceptable quality of cut.

Cut 1/3 of the Grass Blade

It is best to cut only about 1/3 of the grass blade. Cutting more than that is not recommended, unless grass is sparse or it is late fall when grass grows more slowly.

Mowing Direction

Alternate mowing direction to keep the grass standing straight. This also helps disperse clippings which enhances decomposition and fertilization.

Mow at Correct Intervals

Normally, mow every four days. But remember, grass grows at different rates at different times. So to maintain the same cutting height, which is a good practice, mow more often in early spring. As the grass growth rate slows in mid summer, mow less frequently. If you cannot mow for an extended period, first mow at a high cutting height; then mow again two days later at a lower height setting.

Ground Speed

To improve cut quality, use a slower ground speed. For best operation on average lawns, operate the engine at full throttle while controlling the ground speed with the transmission. The tractor should be operated at 2 to 3.5 MPH (3.2 to 5.6 km/h) while mowing grass. Uneven cutting is often a result of excessive ground speed.

Avoid Cutting Too Low

If the cutting width of the mower is wider than the mower you previously used, raise the cutting height one notch to ensure that uneven turf is not cut too short. Average lawns are usually cut at a height between 2 and 3 in. (5 to 7.6 cm).

Long Grass

If the grass is ever allowed to grow slightly longer than normal, or if it contains a high degree of moisture, raise the cutting height higher than usual and cut the grass at this setting. Then cut the grass again using the lower, normal setting.

When Stopping

If the machine must be stopped while mowing, a clump of grass clippings may drop onto your lawn. To avoid this:

1. With the blade(s) Engaged, move onto a previously cut area.
2. To disperse the clippings evenly, raise the mower one or two height-of-cut settings while driving forward with the blade(s) Engaged.

Keep the Underside of the Mower Clean

Use the washout port to clean clippings and dirt from the underside of the mower after each use. If grass and dirt build up inside the mower, cutting quality will eventually become unsatisfactory.

Blade Maintenance

Maintain a sharp blade throughout the cutting season because a sharp blade cuts cleanly without tearing or shredding the grass blades. Tearing and shredding turns grass brown at the edges, which slows growth and increases the chance of disease. Every 30 days, check the cutter blade(s) for sharpness and file down any nicks.

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
After first 5 hours of use	• Change the engine oil.
Each use	• Check the engine oil level. • Check the safety system. • Check the battery electrolyte.
Every 5 hours	• Check the brakes.
Every 25 hours	• Grease the chassis.[1] • Service the foam air cleaner.[1] • Check the spark plug. • Check the tire pressure.
Every 50 hours	• Change the engine oil.[2]
Every 100 hours	• Change the oil filter.[2] • Service the paper air cleaner.[1] • Replace the spark plug. • Replace the fuel filter. • Clean the cooling system.[1] • Check the transaxle fluid.
Before storage	• Perform all of the maintenance procedures listed above. • Check the belts for wear/cracks. • Drain the gasoline. • Paint chipped surfaces. • Charge the battery and disconnect the cables.
After storage	• Check the safety system. • Check the brakes. • Check the spark plug. • Check the battery electrolyte. • Check the tire pressure.

[1]More often in dusty, dirty conditions

[2]More often when operating the engine under heavy load or in high temperatures

Important Refer to your engine operator's manual for additional maintenance procedures.

Caution

If you leave the key in the ignition switch, someone could accidently start the engine and seriously injure you or other bystanders.

Remove the key from the ignition and disconnect the wire from the spark plug before you do any maintenance. Set the wire aside so that it does not accidentally contact the spark plug.

Engine Oil

Service Interval/Specification

Check the oil level before each use.

Change the oil:

- After the first 5 operating hours
- After every 25 operating hours

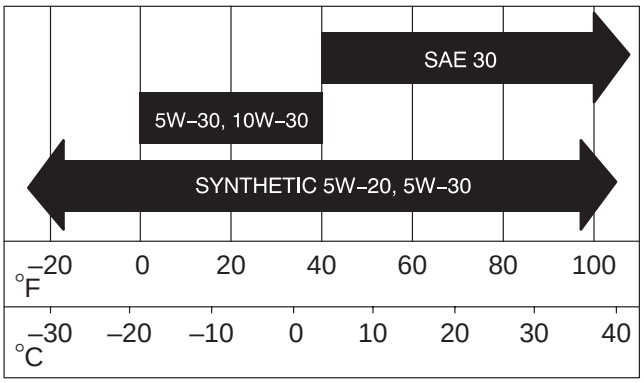
Note: Change the oil more frequently when operating conditions are extremely dusty or sandy.

Oil Type: Detergent oil (API service SF, SG, SH, SJ or higher)

Crankcase Capacity: 48 oz./1-1/2 qt. (1400 cc/1.4 l) when filter is not changed; 56 oz./1-3/4 qt. (1700 cc/1.7 l) when filter is changed

Viscosity: See the table below.

USE THESE SAE VISCOSITY OILS



Checking the Oil Level

1. Park the machine on a level surface, disengage the PTO, set the parking brake, stop the engine, and remove the ignition key.
2. Open the hood.
3. Clean around the oil dipstick (Fig. 13) so dirt cannot fall into the filler hole and damage the engine.
4. Unscrew the oil dipstick and wipe the metal end clean (Fig. 13).
5. Screw the oil dipstick fully onto the filler tube (Fig. 13). Unscrew the dipstick again and look at the metal end. If the oil level is low, slowly pour only enough oil into the filler tube to raise the level to the Full mark.

Important Do not overfill the crankcase with oil because the engine may be damaged.

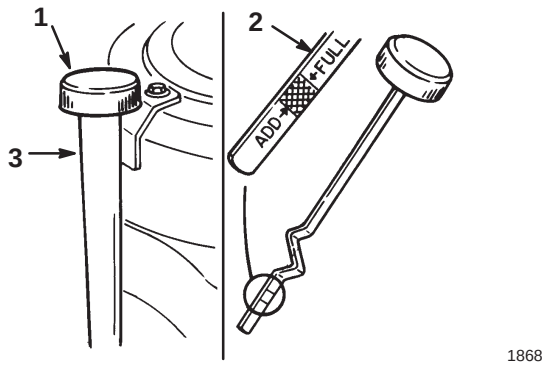


Figure 13

1. Oil dipstick
2. Metal end
3. Filler tube

Changing and Draining the Oil

1. Start the engine and let it run five minutes. This warms the oil so it drains better.
2. Park the machine so that the right front side is slightly lower than the left side to ensure that the oil drains completely. Then disengage the PTO, set the parking brake, stop the engine, and remove the ignition key.
3. Open the hood.
4. Place a pan below the oil dipstick/fill tube and remove the drain plug (Fig. 14).
5. When the oil has drained completely, install the drain plug.

Note: Dispose of the used oil at a certified recycling center.

6. Change the oil filter. (Fig. 15).
7. Slowly pour approximately 80% of the specified amount of oil into the filler tube (Fig. 13). Check the oil level; refer to Checking the Oil Level, page 18, steps 4–5.

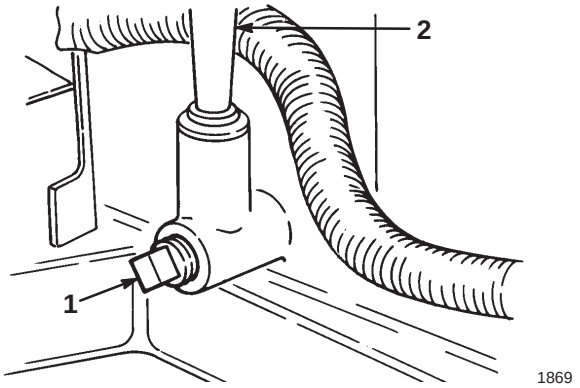


Figure 14

1. Oil drain plug
2. Oil dipstick/fill tube

Change Oil Filter—Service Interval/Specification

Replace the oil filter every 100 hours or every other oil change.

Note: Change the oil filter more frequently when operating conditions are extremely dusty or sandy.

1. Drain the oil from the engine; refer to Changing and Draining the Oil, page 18.
2. Remove the old filter and wipe the filter adapter (Fig. 15) gasket surface.
3. Apply a thin coat of new oil to the rubber gasket on the replacement filter (Fig. 15).

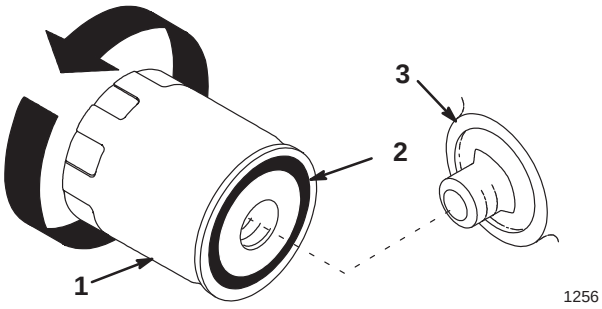


Figure 15

1. Oil filter
2. Gasket
3. Adapter

4. Install the replacement oil filter to the filter adapter. Turn the oil filter clockwise until the rubber gasket contacts the filter adapter, then tighten the filter an additional 1/2 turn (Fig. 15).
5. Slowly pour approximately 80% of the specified amount of oil into the filler tube (Fig. 13). Now check the oil level; refer to Checking the Oil Level, page 18, steps 4 and 5.

Battery

Warning

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. *Wash hands after handling.*

Service Interval/Specification

Check the electrolyte level in the battery before each use. Always keep the battery clean and fully charged. Use a paper towel to clean the battery and battery box. If the battery terminals are corroded, clean them with a solution of four parts water and one part baking soda. Apply a light coating of grease to the battery terminals to prevent corrosion.

Voltage: 12 v, 155 Cold Cranking Amps

Removing the Battery

Warning

Battery terminals or metal tools could short against metal tractor components causing sparks. Sparks can cause the battery gasses to explode, resulting in personal injury.

- **When removing or installing the battery, do not allow the battery terminals to touch any metal parts of the tractor.**
- **Do not allow metal tools to short between the battery terminals and metal parts of the tractor.**

1. Disengage the PTO, set the parking brake, stop the engine, and remove the ignition key.
2. Tip the seat forward to see the battery.
3. Disconnect the negative (black) ground cable from the battery post (Fig. 16).

Warning

Incorrect battery cable routing could damage the tractor and cables causing sparks. Sparks can cause the battery gasses to explode, resulting in personal injury.

- **Always *disconnect* the negative (black) battery cable before disconnecting the positive (red) cable.**
- **Always *connect* the positive (red) battery cable before connecting the negative (black) cable.**

4. Slide the rubber cover up the positive (red) cable. Disconnect the positive (red) cable from the battery post (Fig. 16).
5. Remove the battery box and battery from the chassis (Fig. 16).

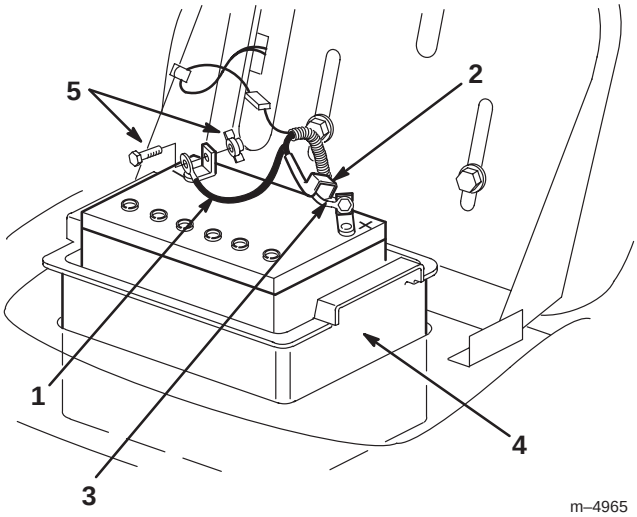


Figure 16

1. Negative cable (black)
2. Rubber cover
3. Positive cable (red)
4. Battery box
5. Bolt and wing nut

Installing the Battery

1. Put the battery into the battery box and install into the chassis (Fig. 16).

2. Using the bolt and wing nut, connect the positive (red) cable to the positive (+) battery post (Fig. 16). Slide the rubber cover over the battery post.

3. Using the bolt and wing nut, connect the negative (black) cable to the negative (–) battery post (Fig. 16).

Checking Electrolyte Level

1. Tip the seat forward to see the battery.

2. Look at the side of the battery. The electrolyte must be up to the Upper line (Fig. 17). Do not allow the electrolyte to fall below the Lower line (Fig. 17).

3. If the electrolyte is low, add the required amount of distilled water; refer to Adding Water to the Battery, page 20.

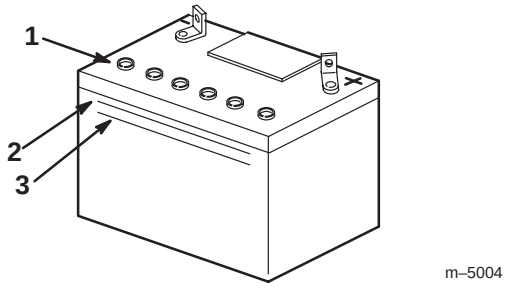


Figure 17

1. Vent caps
2. Upper line
3. Lower line

Danger

Battery electrolyte contains sulfuric acid which is a deadly poison and causes severe burns.

- **Do not drink electrolyte and avoid contact with skin, eyes or clothing. Wear safety glasses to shield your eyes and robber gloves to protect your hands.**
- **Fill the battery where clean water is always available for flushing the skin.**

Adding Water to the Battery

The best time to add distilled water to the battery is just before you operate the machine. This lets the water mix thoroughly with the electrolyte solution.

1. Remove the battery from the tractor; refer to Removing the Battery, page 19.

2. Clean the top of the battery with a paper towel.

Note: Never fill the battery with distilled water while the battery installed in the tractor. Electrolyte could be spilled on other parts and cause corrosion.

3. Remove the vent caps from the battery (Fig. 17).

4. Slowly pour distilled water into each battery cell until the electrolyte level is up to the Upper line (Fig. 17) on the battery case.

Important Do not overfill the battery because electrolyte (sulfuric acid) can cause severe corrosion and damage to the chassis.

5. Wait five to ten minutes after filling the battery cells. Add distilled water, if necessary, until the electrolyte level is up to the Upper line (Fig. 17) on the battery case.

6. Reinstall the battery vent caps.

Charging the Battery

Warning

Charging the battery produces gasses that can explode.

Never smoke near the battery and keep sparks and flames away from battery.

Important Always keep the battery fully charged (1.265 specific gravity). This is especially important to prevent battery damage when the temperature is below 32°F (0°C).

1. Remove the battery from the chassis; refer to Removing the Battery, page 19.
2. Check the electrolyte level; refer to Checking the Electrolyte Level, page 20.
3. Make sure the vent caps are installed in the battery. Charge the battery for 10 to 15 minutes at 25 to 30 amps or 30 minutes at 4–6 amps. Do not overcharge the battery.
4. When the battery is fully charged, unplug the charger from the electrical outlet, then disconnect the charger leads from the battery posts (Fig. 18).

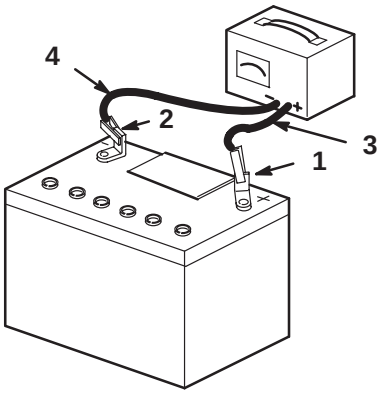


Figure 18

1. Positive Battery Post
2. Negative Battery Post
3. Red (+) Charger Lead
4. Black (–) Charger Lead

5. Install the battery in the tractor and connect the battery cables; refer to Installing the Battery, page 20.

Note: Do not run the tractor with the battery disconnected, electrical damage may occur.

Brake

The brake is on the right side of the rear axle, inside the rear tire (Fig. 19). If the parking brake does not hold securely, an adjustment is required.

Checking the Brake

1. Park the machine on a level surface, disengage the PTO, set the parking brake, stop the engine, and remove the ignition key.
2. Move the drive control wire to the Push position; refer to Pushing the Machine by Hand, page 15.
3. If the rear wheels lock and skid when you push the tractor forward, no adjustment is required. An adjustment is required if the wheels turn and do not lock; refer to Adjusting the Brake, page 21.

Adjusting the Brake

1. Check the brake before you adjust it; refer to Checking the Brake, page 21.
2. Remove the brake arm spring (Fig. 19).
3. Remove the cotter pin securing the brake adjusting nut and slightly loosen the nut (Fig. 19).
4. Insert a 0.015 in. (.38 mm) feeler gauge between the brake disc and brake puck (Fig. 19). Tighten the nut until slight resistance is felt on the feeler gauge when sliding it in and out.
5. Install a new cotter pin and reattach the brake arm spring.
6. Check the brake operation again; refer to Checking the Brake, page 21.

Important With the parking brake released, the rear wheels must rotate freely when you push the tractor. If the .015 in. (.38 mm) clearance and free wheel rotation cannot be achieved, contact your service dealer immediately.

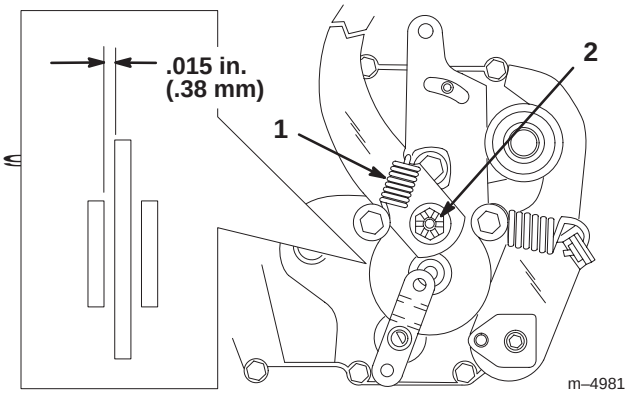


Figure 19

1. Brake arm spring
2. Brake adjusting nut

Greasing and Lubrication

Service Interval/Specification

Grease the machine after every 25 operating hours or once a year, whichever occurs first. Grease more frequently when operating conditions are extremely dusty or sandy.

Grease Type: General-purpose grease

How to Grease

1. Disengage the PTO, set the parking brake, stop the engine, and remove the ignition key.
2. Clean the grease fittings with a rag. Make sure to scrape any paint off of the front of the fitting(s).
3. Connect a grease gun to the fitting. Pump grease into the fittings.
4. Wipe up any excess grease.

Where to Add Grease

Lubricate the front wheels until grease begins to ooze out of the bearings (Fig. 20).

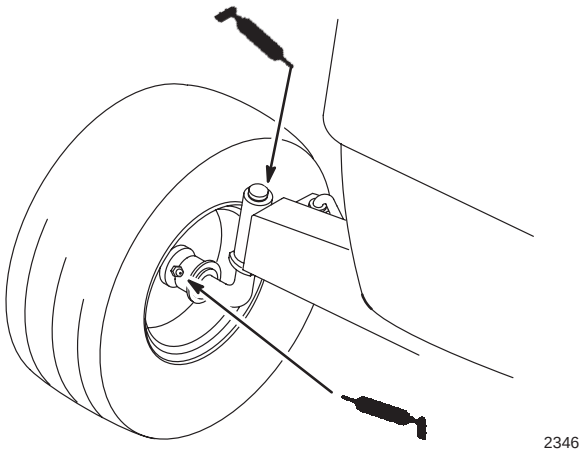


Figure 20

Tire Pressure

Service Interval/Specification

Maintain the air pressure in the front and rear tires at 20 psi (138 kPa). Check the pressure at the valve stem after every 25 operating hours or yearly, whichever occurs first (Fig. 21). Check the tires when they are cold to get the most accurate pressure reading.

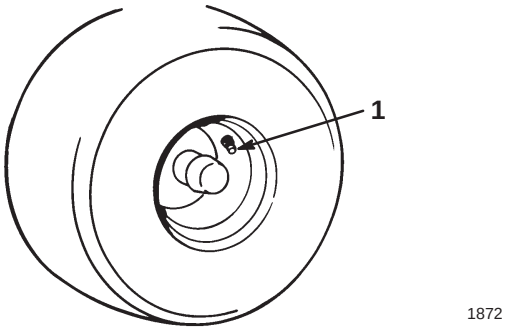


Figure 21

1. Valve stem

Air Cleaner

Service Interval/Specification

Foam Element: Clean and oil after every 25 operating hours, or yearly, whichever occurs first.

Paper Element: Replace after every 100 operating hours or yearly, whichever occurs first.

Note: Service the air cleaner more frequently (every few hours) if operating conditions are extremely dusty or sandy.

Removing the Foam and Paper Elements

1. Disengage the PTO, set the parking brake, stop the engine, and remove the ignition key.
2. Open the hood.
3. Clean around the air cleaner to prevent dirt from getting into the engine and causing damage. Unscrew the knob and remove the air cleaner cover (Fig. 22).

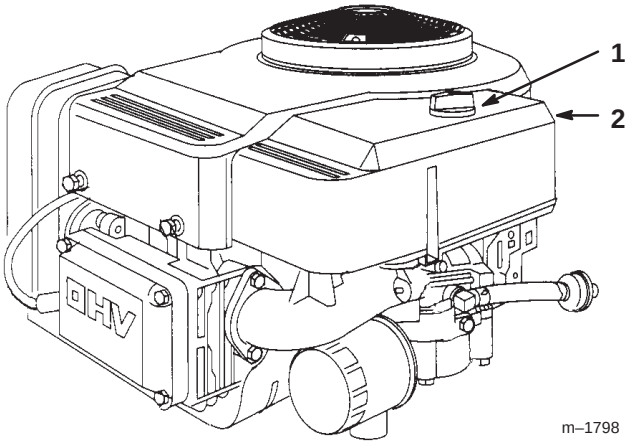


Figure 22

1. Knob
2. Air cleaner cover

4. Carefully slide the foam element off of the paper element (Fig. 23).

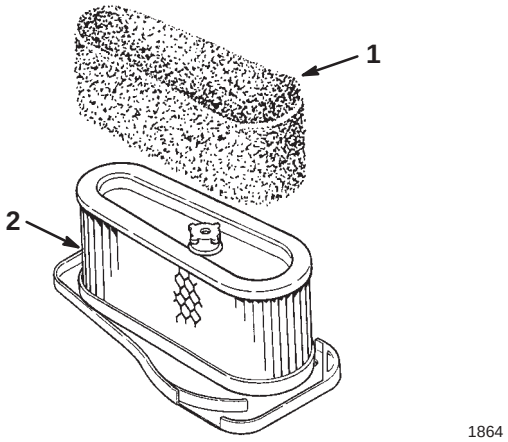


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Figure 23

1. Foam element 2. Paper element

5. Unscrew the rubber nut and remove the paper element (Fig. 24).

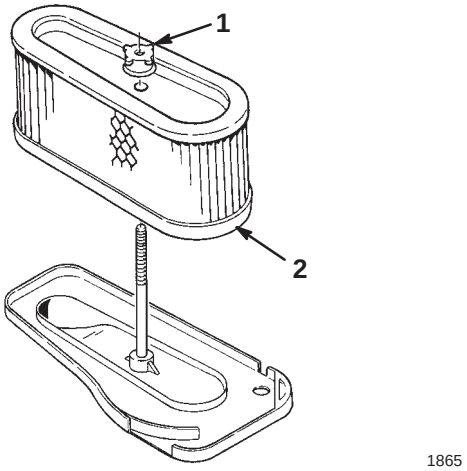

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Figure 24

1. Rubber nut 2. Paper element

Cleaning the Foam and Paper Elements

1. Foam Element

A. Wash the foam element in liquid soap and warm water. When the element is clean, rinse it thoroughly.

B. Dry the element by squeezing it in a clean cloth.

C. Put one or two ounces of oil on the element (Fig. 25). Squeeze the element to distribute the oil.

Important Replace the foam element if it is torn or worn.

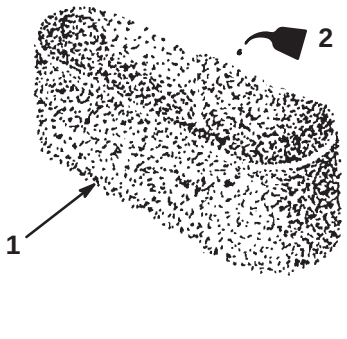

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Figure 25

1. Foam element 2. Oil

2. Paper Element

A. Lightly tap the element on a flat surface to remove dust and dirt (Fig. 26).

B. Inspect the element for tears, an oily film, and damage to the rubber seal.

Important Never clean the paper element with pressurized air or liquids, such as solvent, gas, or kerosene. Replace the paper element if it is damaged or cannot be cleaned thoroughly.

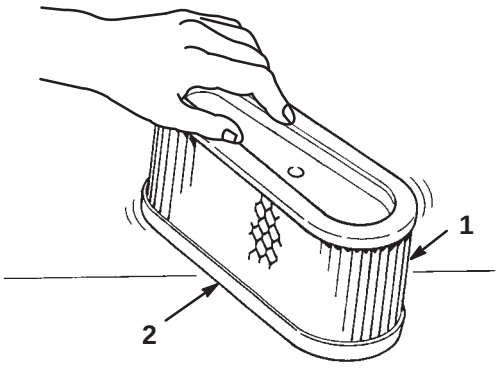

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Figure 26

1. Paper element 2. Rubber seal

Installing the Foam and Paper Elements

Important To prevent engine damage, always operate the engine with the complete foam and paper air cleaner assembly installed.

1. Carefully slide the foam element onto the paper air cleaner element (Fig. 23).

2. Slide the air cleaner assembly onto the long rod. Screw the rubber nut finger-tight against the air cleaner (Fig. 24).

Note: Make sure that the rubber seal is flat against the air cleaner base.

3. Install the air cleaner cover and knob (Fig. 22). Tighten the knob snugly.
4. Close the hood.

Spark Plug

Service Interval/Specification

Install a new spark plug after every 100 operating hours. Check the spark plug after every 25 operating hours. Make sure that the air gap between the center and side electrodes is correct before installing the spark plug. Use a spark plug wrench for removing and installing the spark plug and a gapping tool/feeler gauge to check and adjust the air gap.

Type: Champion RC12YC (or equivalent)

Air Gap: 0.030 in. (0.762 mm)

Removing the Spark Plug

1. Disengage the PTO, set the parking brake, stop the engine, and remove the ignition key.
2. Open the hood.
3. Pull the wire off of the spark plug (Fig. 27). Clean around the spark plug to prevent dirt from falling into the engine and potentially causing damage.
4. Remove the spark plug and metal washer.

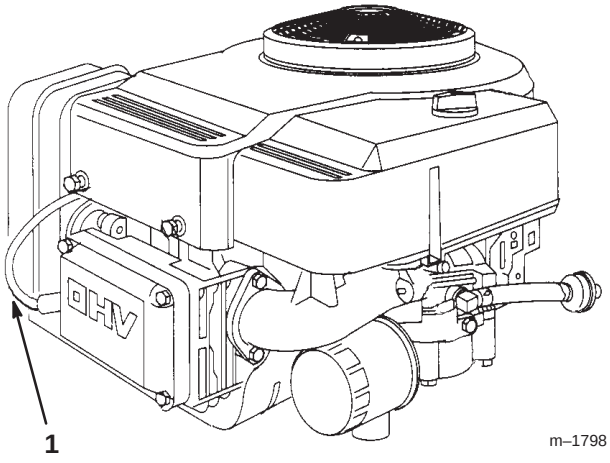


Figure 27

1. Spark plug wire

Checking the Spark Plug

1. Look at the center of the spark plug (Fig. 28). If you see light brown or gray on the insulator, the engine is operating properly. A black coating on the insulator usually means the air cleaner is dirty.

Important Never clean the spark plug. Always replace the spark plug when it has a black coating, worn electrodes, an oily film, or cracks.

2. Check the gap between the center and side electrodes (Fig. 28). Bend the side electrode (Fig. 28) if the gap is not correct.

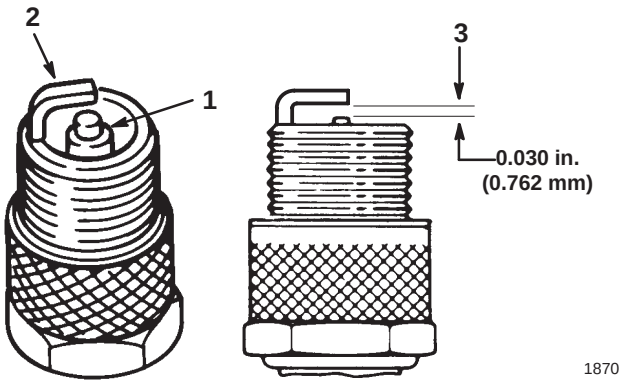


Figure 28

1. Center electrode insulator
2. Side electrode
3. Air gap (not to scale)

Installing the Spark Plug

1. Install the spark plug and metal washer. Make sure that the air gap is set correctly.
2. Tighten the spark plug to 15 ft.-lb. (20.4 N·m).
3. Push the wire onto the spark plug (Fig. 27).
4. Close the hood.

Transaxle Fluid

Service Interval/Specification

Check fluid level after every 100 hours or yearly, whichever occurs first. Always keep the fluid level at the full level when the transaxle is cold.

Note: The transaxle is factory sealed and does not require oil changes.

Fluid Type: SAE 20W-50 engine oil (API service SH/CD recommended)

Checking Fluid Level

1. Park the machine on a level surface, disengage the PTO, set the parking brake, stop the engine, and remove the ignition key.
2. Clean around the fill plug (Fig. 29) so that dirt cannot fall into the reservoir if fluid needs to be added.
3. Remove the fill plug and check the fluid level. The level should be a maximum of 1-1/4 in. (32 mm) below the top of the fill port (Fig. 29). Add oil if necessary.

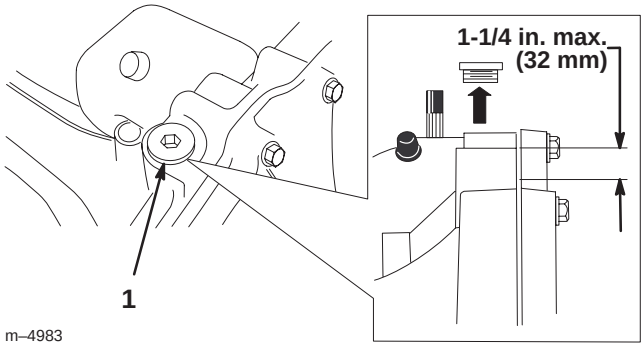


Figure 29

1. Fill plug

4. Replace the fill plug.

Draining the Fuel Tank

Danger

In certain conditions, gasoline is extremely flammable and highly explosive. A fire or explosion from gasoline can burn you and others and can damage property.

- **Drain gasoline from the fuel tank when the engine is cold. Do this outdoors in an open area. Wipe up any gasoline that spills.**
- **Never smoke when draining gasoline, and stay away from an open flame or where a spark may ignite the gasoline fumes.**

1. Park the machine so that the left front side is slightly lower than the right side to ensure that the fuel tank drains completely. Then disengage the PTO, set the parking brake, stop the engine, and remove the ignition key.
2. Open the hood and locate the fuel filter (Fig. 30).
3. Squeeze the ends of the hose clamp together and slide it up the fuel line toward the fuel tank (Fig. 30).
4. Pull the fuel line off of the filter (Fig. 30) and allow gasoline to drain into a gas can or drain pan.

Note: Now is the best time to install a new fuel filter because the fuel tank is empty.

5. Install the fuel line onto the filter. Slide the hose clamp close to the filter to secure the fuel line and filter.

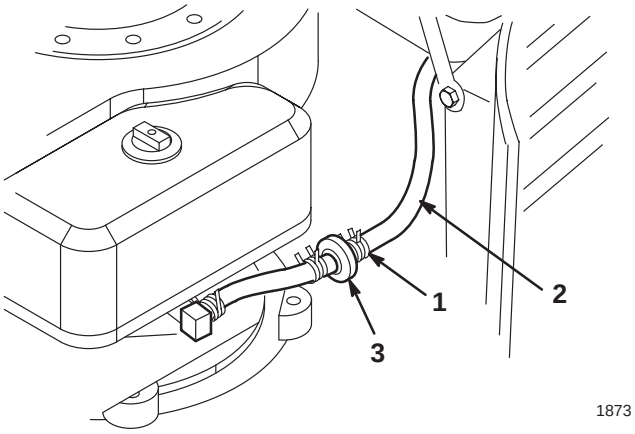


Figure 30

1. Hose clamp
2. Fuel line
3. Filter

Fuel Filter

Service Interval/Specification

Replace the fuel filter after every 100 operating hours or yearly, whichever occurs first.

Replacing the Fuel Filter

The best time to replace the fuel filter (Fig. 30) is when the fuel tank is empty. Never install a dirty filter if it is removed from the fuel line.

1. Disengage the PTO, set the parking brake, stop the engine, and remove the ignition key.
2. Open the hood.
3. Squeeze the ends of the hose clamps together and slide them away from the filter (Fig. 30).
4. Remove the filter from the fuel lines.
5. Install a new filter and move the hose clamps close to the filter.
6. Close the hood.

Fuse

Service Interval/Specification

The electrical system is protected by fuses. No maintenance is required, however, if a fuse blows, check the circuit wiring for a short. To replace a fuse pull up (Fig. 31) to remove it from the socket. Push down to insert it.

Fuse: 10 amp, blade-type

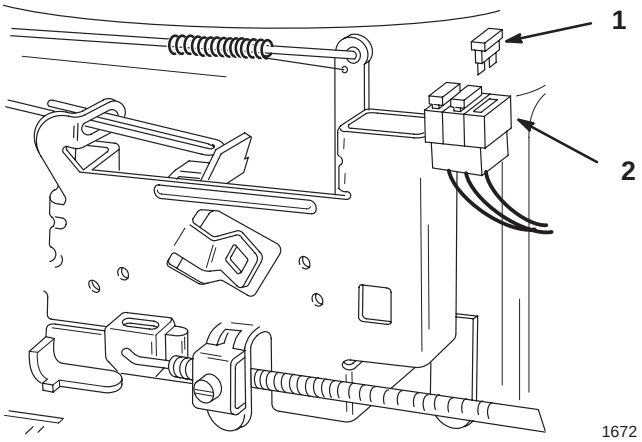


Figure 31

1. Fuse (removed)
2. Socket

Headlights

Specification: Bulb # 1156, automotive type

Removing the Bulb

1. Disengage the PTO, set the parking brake, stop the engine, and remove the ignition key.

2. Open the hood. Pull the wire connectors off of both bulb holder terminals.

3. Rotate the bulb holder 1/4 turn counterclockwise and remove it from the reflector (Fig. 32).

4. Push and rotate the bulb counterclockwise until it stops (approx. 1/4 turn) and remove the bulb from the bulb holder (Fig. 33).

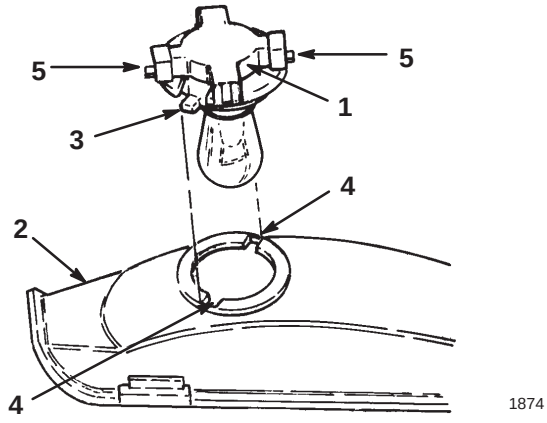


Figure 32

1. Bulb holder
2. Reflector
3. Tabs
4. Slots
5. Terminals

Installing the Bulb

1. The bulb has metal pins on the side of its base. Align the pins with the slots in the bulb holder and insert the base into the holder (Fig. 33). Push and rotate the bulb clockwise until it stops.

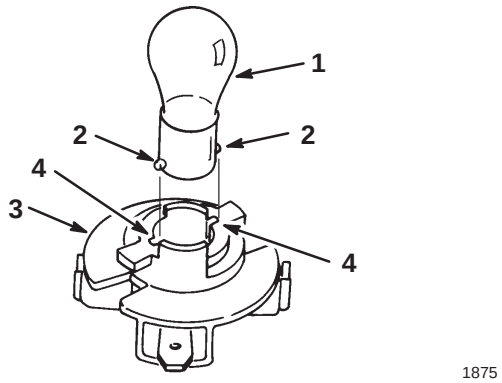


Figure 33

1. Bulb
2. Metal pins
3. Bulb holder
4. Slots

2. The bulb holder has two tabs (Fig. 32). Align the tabs with the slots in the reflector, insert the bulb holder into the reflector, and rotate it 1/4 turn clockwise until it stops.

3. Push the wire connectors onto the terminals on the bulb holder.

Cleaning and Storage

1. Disengage the PTO, set the parking brake, stop the engine, and remove the ignition key.
2. Remove grass clippings, dirt, and grime from the external parts of the entire machine, especially the engine. Clean dirt and chaff from the outside of the engine cylinder head fins and blower housing.

Important You can wash the machine with mild detergent and water. **Do not use a pressure washer to wash the machine.** Pressure washing may damage the electrical system or wash away necessary grease at friction points. Avoid excessive use of water, especially near the control panel, lights, engine, and the battery.

3. Check the brake; refer to Brake, page 21.
4. Service the air cleaner; refer to Air Cleaner, page 22.
5. Grease the chassis; refer to Greasing and Lubrication, page 22.
6. Change the crankcase oil and filter; refer to Engine Oil, page 18.
7. Check the tire pressure; refer to Tire Pressure, page 22.
8. Prepare the machine for storage when non-use occurs over 30 days. Prepare machine for storage as follows.

   A. Add a petroleum based stabilizer/conditioner to the fuel in the tank. Follow the mixing instructions from the stabilizer manufacturer (1 oz. per gallon). **Do not use an alcohol based stabilizer (ethanol or methanol).**

Note: A fuel stabilizer/conditioner is most effective when mixed with fresh gasoline and used at all times.

   B. Run the engine to distribute conditioned fuel through the fuel system (5 minutes).

   C. Stop the engine, allow it to cool, and drain the fuel tank; refer to Draining the Fuel Tank, page 25.

   D. Restart the engine and run it until it stops.

   E. Choke or prime the engine. Start and run the engine until it will not start. Operate the primer, if equipped on the machine, several times to ensure that no fuel remains in the primer system.

   F. Dispose of fuel properly. Recycle as per local codes.

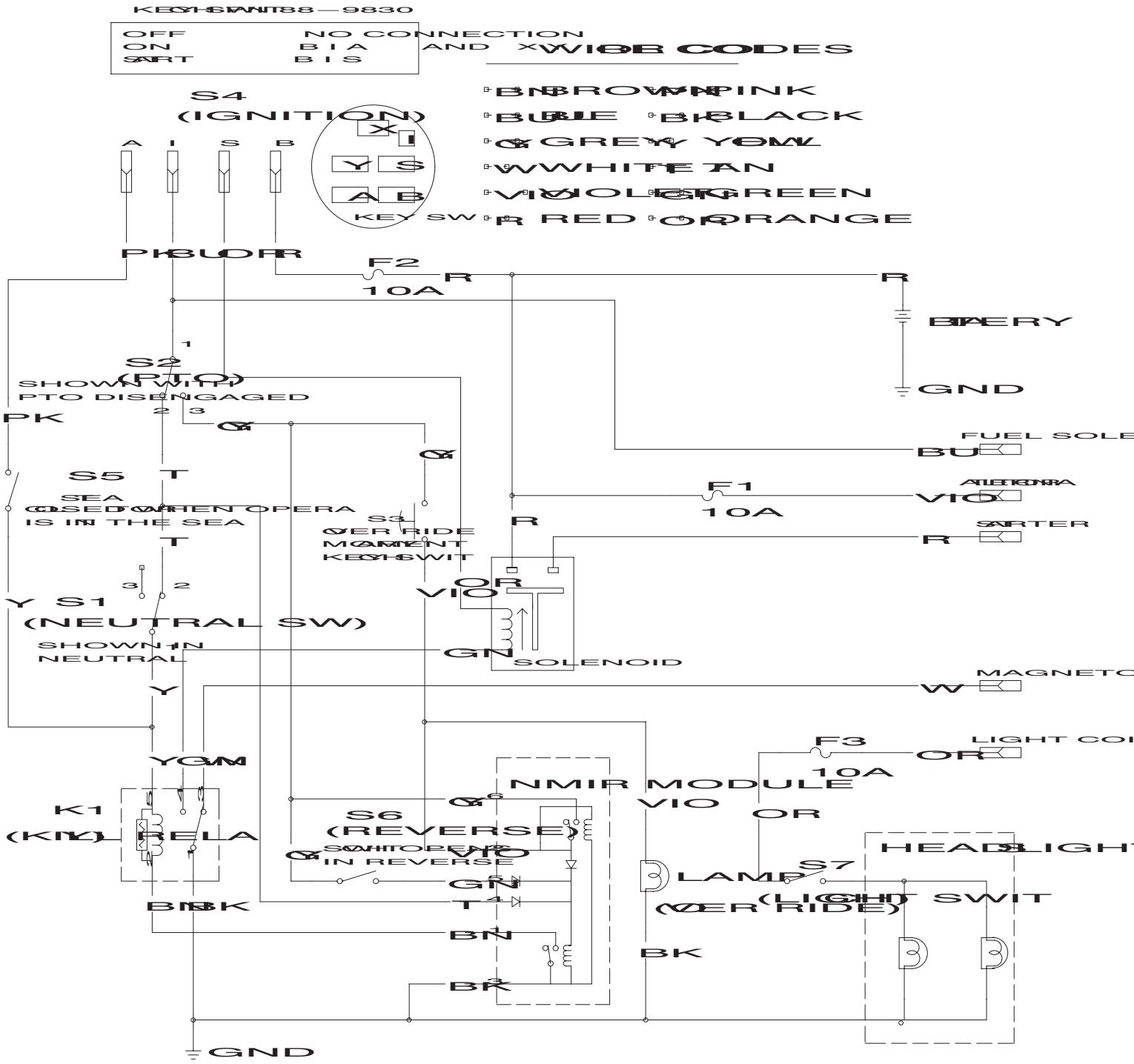
Important Do not store stabilizer/conditioned gasoline over 90 days.

9. Remove the spark plug(s) and check its condition; refer to Spark Plug, page 24. With the spark plug(s) removed from the engine, pour two tablespoons of engine oil into the spark plug hole. Use the starter to crank the engine and distribute the oil inside the cylinder. Install the spark plug(s); refer to Spark Plug, page 24. Do not install the wire on the spark plug(s).
10. Disconnect the negative battery cable. Clean the battery and battery terminals. Check the electrolyte level and charge it fully; refer to Battery, page 19. Leave the negative battery cable disconnected from the battery during storage.

Important The battery must be fully charged to prevent it from freezing and being damaged at temperatures below 32°F (0°C). A fully charged battery can be stored one winter season without recharging.

11. Check and tighten all bolts, nuts, and screws. Repair or replace any part that is damaged.
12. Paint all scratched or bare metal surfaces. Paint is available from your Authorized Service Dealer.
13. Store the machine in a clean, dry garage or storage area. Remove the ignition and KeyChoice keys from the switches and keep them in a memorable place. Cover the machine to protect it and keep it clean.

Wiring Diagram



Troubleshooting

Problem	Possible Causes	Corrective action
The starter does not engage.	1. The PTO is engaged. 2. The parking brake is not on. 3. The battery is dead. 4. The electrical connections are corroded or loose. 5. A fuse is blown. 6. A relay or switch is damaged.	1. Move the PTO to Disengaged. 2. Set the parking brake. 3. Charge the battery. 4. Check the electrical connections for good contact. 5. Replace the fuse. 6. Contact an Authorized Service Dealer.
The engine will not start, starts hard, or fails to keep running.	1. The operator is not seated. 2. The fuel tank is empty. 3. The air cleaner is dirty. 4. The spark plug wire is loose or disconnected. 5. The spark plug is pitted, fouled, or the gap is incorrect. 6. The choke is not closing. 7. There is dirt in the fuel filter. 8. The idle speed is too low or the mixture is incorrect. 9. Dirt, water, or stale fuel is in the fuel system.	1. Sit on the seat. 2. Fill the fuel tank with gasoline. 3. Clean or replace the air cleaner element. 4. Install the wire on spark plug. 5. Install a new, correctly-gapped spark plug. 6. Check for choke operation. 7. Replace the fuel filter. 8. Contact an Authorized Service Dealer. 9. Contact an Authorized Service Dealer.
The engine loses power.	1. The engine load is excessive. 2. The air cleaner is dirty. 3. The oil level in the crankcase is low. 4. The cooling fins and air passages under the engine blower housing are plugged. 5. The spark plug is pitted, fouled, or the gap is incorrect. 6. The vent hole in the fuel cap is plugged. 7. There is dirt in the fuel filter. 8. Dirt, water, or stale fuel is in the fuel system.	1. Reduce ground speed. 2. Clean the air cleaner element. 3. Add oil to the crankcase. 4. Remove the obstruction from the cooling fins and air passages. 5. Install a new, correctly-gapped spark plug. 6. Clean or replace the fuel cap. 7. Replace the fuel filter. 8. Contact an Authorized Service Dealer.

Problem	Possible Causes	Corrective action
The engine overheats.	1. The engine load is excessive. 2. The oil level in the crankcase is low. 3. The cooling fins and air passages under the engine blower housing are plugged.	1. Reduce ground speed. 2. Add oil to the crankcase. 3. Remove the obstruction from the cooling fins and air passages.
The machine does not drive.	1. The drive control is in the Push position. 2. The traction belt is worn, loose, or broken. 3. The traction belt is off of the pulley.	1. Move the drive control to the Operate position. 2. Contact an Authorized Service Dealer. 3. Contact an Authorized Service Dealer.

TORO.

Consumer
Riding
Products

The Toro Total Coverage Guarantee

A Two-Year Full Warranty
(Limited Warranty for Commercial Use)

Conditions and Products Covered

The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly promise to repair any Toro Product used for normal residential purposes* if defective in materials or workmanship. The following time periods apply from the date of purchase:

Products	Warranty Period
• All Products	2 year full warranty
• 300 and 5xi Series Tractors:	
Chassis	5 year full warranty
Front Axle	5 year full warranty
Drive Shaft (5xi Series Only)	5 year full warranty
• All Batteries	1 year full warranty

This warranty covers both the cost of parts and labor, and transportation within a fifteen mile radius of the servicing dealer.

This warranty applies to all consumer riding products and their attachments.

* Normal residential purposes means use of the product on the same lot as your home. Use at more than one location is considered commercial use, and the commercial use warranty would apply.

Limited Warranty for Commercial Use

Toro Consumer Products and attachments used for commercial, institutional, or rental use are warranted against defects in materials or workmanship for the following time periods from the date of purchase:

Products	Warranty Period
• All Products	90 day limited warranty
• 300 and 5xi Series Tractors	
Chassis	1 year limited warranty
Liquid Cooled Gas Engines	1 year limited warranty
Air Cooled Gas and Diesel Engines	2 year limited warranty

Instructions for Obtaining Warranty Service

Should you feel your Toro Product contains a defect in materials or workmanship, contact the retailer who sold you the product or any Authorized Service Dealer or Master Service Dealer. The Yellow Pages of your telephone directory is a good reference source. The dealer will either arrange service at his/her dealership or recommend another Authorized Service Dealer who may be more convenient. You may need proof of purchase (copy of registration card, sales receipt, etc.) for warranty validation.

If for any reason you are dissatisfied with the Service Dealer's analysis of the defect in materials or workmanship or if you need a referral to a Toro Service Dealer, please feel free to contact us at:

Customer Service Department
Toro Warranty Company
8111 Lyndale Avenue South
Bloomington, MN 55420-1196
952-888-8801 or 800-421-9684

Owner Responsibilities

You must maintain your Toro Product by following the maintenance procedures described in the operator's manual. Such routine maintenance, whether performed by a dealer or by you, is at your expense.

Items and Conditions Not Covered

There is no other express warranty except for special emission system coverage on some products. This express warranty does not cover:

- Cost of regular maintenance service or parts, such as filters, fuel, lubricants, tune-up parts, blade sharpening, brake and clutch adjustments.
- Any product or part which has been altered or misused or required replacement or repair due to normal wear, accidents, or lack of proper maintenance.
- Repairs necessary due to improper fuel, contaminants in the fuel system, or failure to properly prepare the fuel system prior to any period of non-use over three months.
- Pickup and delivery charges for distances beyond a fifteen mile radius from an Authorized Toro Service Dealer.

All repairs covered by this warranty must be performed by an Authorized Toro Service Dealer using Toro approved replacement parts.

General Conditions

Repair by an Authorized Toro Service Dealer is your sole remedy under this warranty.

Neither The Toro Company nor Toro Warranty Company is liable for indirect, incidental or consequential damages in connection with the use of the Toro Products covered by this warranty, including any cost or expense of providing substitute equipment or service during reasonable periods of malfunction or non-use pending completion of repairs under this warranty. Some states do not allow exclusions of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Countries Other than the United States or Canada

Customers who have purchased Toro products exported from the United States or Canada should contact their Toro Distributor (Dealer) to obtain guarantee policies for your country, province, or state. If for any reason you are dissatisfied with your Distributor's service or have difficulty obtaining guarantee information, contact the Toro importer. If all other remedies fail, you may contact us at Toro Warranty Company.

Part No. 374-0009 Rev. –